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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,822	05/16/2007	David A. Fish	2004P00675WOUS	1704

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EXAMINER

FRY, MATTHEW A

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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08/12/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/598,822	Applicant(s) FISH ET AL.	
	Examiner MATTHEW FRY	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-17 and 19-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Forrest et al (US 2004/0031965).

4. In regards to claim 1, Forrest discloses an active matrix display device comprising an array of display pixels (¶ 20), each pixel comprising:

a current-driven light emitting display element comprising an area of light emitting material (230) sandwiched between electrodes (220 and 240);

a light-dependent device (250) for detecting the brightness of the display element, wherein the light-dependent device is located laterally outside of the area of the light emitting material defined by the vertical planar edges of the light emitting layer of the light emitting material, and separated from the light emitting material by at least one insulating layer (inherent to the display; as without an insulating layer the electrodes would not function appropriately; further air is considered an insulator),

wherein the vertical planar edges of the light emitting material are defined in a direction between a top and a bottom electrode of the light-dependent device

wherein the light dependent device is located in the same horizontal plane as the light emitting material of the light emitting display element, and

wherein the light dependent device is directly illuminated from light emitted from a side face of the light emitting display element and travels in a horizontal plane from said light emitting display to said light dependent device (implicit to the layout) (see figure 2),

a drive transistor (510) circuit for driving a current through the display element, wherein the drive transistor is controlled in response to the light-dependent device output (figure 5).

5. In regards to claim 2, Forrest discloses a device as claimed in claim 1, wherein the light-dependent device comprises a photodiode (540) (figure 5).

6. In regards to claim 3, Forrest discloses a device as claimed in claim 2, wherein the photodiode comprises a PIN or NIP diode stack or a Schottky diode and top and bottom contact terminals (see figure 2).

7. In regards to claim 15, Forrest discloses a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode and a bottom substantially transparent electrode (¶ 30 and 34).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forrest et al (US 2004/0031965) in view of Zavracky et al (US 5,751,261).

10. In regards to claim 4, Forrest discloses a device as claimed in claim 3, but does not discuss a light shield covering the side of the photodiode.

Zavrachy teaches a display comprising a photodiode wherein the top (93) contact terminal (1067) extends over the top of the stack and down one side of the stack and acts as a light shield to pixels on the one side of the photodiode (94) (see figure 7H)

Shielding the photodiode from ambient light and light emitted from other pixels would have been obvious to one of ordinary skill in the art in order to provide the most accurate reading of the emitted light.

11. Claims 5-8, 16-17, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forrest et al (US 2004/0031965) in view of Yamazaki et al (US 2002/0180672).

12. In regards to claim 5, Forrest teaches a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode (¶ 39) but does not discuss the bottom electrode being reflective.

Yamazaki teaches electrodes comprise a top substantially transparent electrode (658)(¶ 236) and a bottom substantially non-transparent, reflective electrode (655) (figure 14; ¶ 336).

It would have been obvious to one of ordinary skill in the art to modify Forrest with Yamazaki such that the bottom electrode is reflective in order to direct more light from the light emitting element to the light detecting element. It further would have been an obvious design choice to modify the location of Yamazaki's light emitting device and light detecting device such that they are on the same level. It would have been simple for one of ordinary skill in the art to place layers (655-658) under insulating layer 659 such that it's on the same level as (650-651; figure 14). Such a modification would have minor impact on the device and would have been obvious to try as shown by Forrest figure 2.

13. In regards to claim 6, Forrest as modified discloses a device as claimed claim 5, wherein the bottom electrode is for reflecting light from the display element to the light dependent device (Yamazaki ¶ 336; figure 14).

14. In regards to claim 7, Forrest as modified discloses a device as claimed in claim 6, wherein the bottom electrode is for reflecting light emitted at an angle to the normal greater than a first angle to the light dependent device (Yamazaki figure 14; ¶ 336).

15. In regards to claim 8, Forrest as modified discloses a device as claimed in claim 6, further comprising a reflecting layer (660) above the light dependent device and for reflecting light from the bottom electrode to the light dependent device (see Yamazaki figure 14).

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16. In regards to claim 16, Forrest as modified discloses a device as claimed in claim 15, wherein the device further comprises an additional reflective layer beneath the bottom electrode. Yamazaki teaches electrodes comprise a top substantially transparent electrode (658)(¶ 236) and a bottom substantially non-transparent, reflective electrode (655) (figure 14; ¶ 336), and Forrest ¶ 50 discusses that the electrode can be transparent and a reflective layer can be placed on top instead of using a reflective electrode. As such, it would have been obvious for Yamazaki's bottom electrode to be transparent and use a reflecting layer underneath.

17. In regards to claim 17, Forrest as modified discloses a device as claimed in claim 16, further comprising a reflecting layer above the light dependent device (90) and for reflecting light from the reflecting layer to the light dependent device (see Forrest ¶ 36 and 66).

18. In regards to claim 21, Forrest as modified discloses a device as claimed in claim 1, wherein the light-dependent device extends alongside the area of light emitting material and extends along substantially the full length of one side of the area of light emitting material (see Forrest figure 2; Yamazaki figure 14).

19. In regards to claim 22, Forrest as modified discloses a device as claimed in claim 21, but does not explicitly teach wherein the light-dependent device extends around an upper and lower portion of the area of light emitting material. However, this would have been an obvious design choice for one of ordinary skill in the art, as it would increase the amount of luminance received by the light-dependent device.

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20. In regards to claim 23, Forrest as modified discloses a device as claimed in claim 1, wherein the light emitting display element comprises an electroluminescent display element (see Yamazaki abstract).

21. Claims 9-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forrest et al (US 2004/0031965) in view of Yamazaki et al (US 2002/0180672) and further in view of Yamazaki et al (US 2001/0026125) (referred to as '125).

22. In regards to claim 9, Forrest as modified discloses a device as claimed in claim 8, but does not teach a plurality of printing dams.

Yamazaki ('125) teaches a display further comprises a plurality of printing dams (78) (105) and the light emitting material (76) (106) comprises a printable material (see figure 1b).

It would have been obvious to one of ordinary skill in the art to modify Yamazaki with Yamazaki ('125) as use of banks are commonly known in the art of display manufacturing and assist in accurate printing of different EL elements.

23. In regards to claim 10, Forrest as modified discloses a device as claimed in claim 9, wherein the reflecting layer (660) is formed at the base of the printing dams (78) (see Yamazaki ('672) figure 14; Yamazaki ('125) figure 1B). It would have been an obvious design choice to place the printing dams over the reflecting layer.

24. In regards to claim 11, Forrest as modified discloses a device as claimed in claim 9, wherein the printing dams comprise an insulating body (105a) and a conducting metal layer (105b and 107) over the insulating body (see Yamazaki ('125) figure 1b).

25. In regards to claim 12, Forrest as modified discloses a device as claimed in claim 11, wherein the conducting metal layer (105b) provides a lower resistance shunt connecting the top substantially transparent electrodes (see figure 1B).

26. In regards to claim 13, Forrest as modified discloses a device as claimed in claim 11, wherein the conducting metal layer defines the reflecting layer (see Yamazaki ('125) figure 1b; Yamazaki ('672) figure 14). As discussed above comparing the two figures From Yamazaki and Yamazaki, it would have been an obvious design choice to place the printing dam over the reflecting layer. As reflective conductive layers are well known and commonly used in the display art, it would have been obvious for one of ordinary skill in the art to try utilizing the conducting metal layer as the reflecting layer.

27. In regards to claim 14, Forrest as modified discloses a device as claimed in claim 9, wherein the light sensitive devices are formed beneath the priming dams (see claim 10 explanation).

28. In regards to claims 19 and 20, see claim 9 and 10 explanations above.

Conclusion

29. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW FRY whose telephone number is (571)270-7355. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 5:00 PM, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

/MATTHEW A FRY/
Examiner, Art Unit 2629